South Star Cogeneration LLC is seeking approval from the CEC to construct and operate the South Star Cogeneration Project (South Star) in western Kern County approximately 35 miles southwest of Bakersfield, California. The South Star Project will consist of two substantially identical cogeneration plants, South Star I (Section 17, T32S, R23E) and South Star II (Section 7, T32S, R23E), that are located approximately 1.5 miles apart on contiguous Texaco California Inc. (TCI) property in the South Midway-Sunset Oilfield. The Application for Certification (AFC) presents an evaluation of the entire South Star Project in a manner to clearly indicate the environmental affects associated with each site and its related linear facilities.

South Star I includes the following project components shown on Figure 2-1:

- South Star I site;
- Replacement of poles and conductor for approximately 4.7 miles of existing 12.47 kV transmission line;
- 0.6 mile 115 kV transmission line extension to South Star I site;
- Alternative stand-alone 5.3 mile 115 kV transmission line;
- 3.6 miles of natural gas line (Kern-Mojave to Station 109 and natural gas line placed within TCI South Midway Utility Corridor Segment A);
- Approximately 2.4 mile Alternative Route 1 natural gas line; and
- Improved access road (Midoil Road to South Star I site).

South Star II includes the following project components as shown on Figure 2-1:

- South Star II site;
- 3.8 mile addition of second 115 kV circuit on proposed South Star I transmission line;
- 1.4 miles of natural gas line (placed within TCI South Midway Utility Corridor Segment B);
- Approximately 1.5 Alternative aboveground Route 2 natural gas line; and
- Improved access road (Midoil Road to South Star II site).

The primary water resources under consideration include the use of West Kern Water District's water to supply the potable water system, fire water system, and evaporative cooler makeup, and potential surface water impacts related to stormwater maintenance.

Because there are no cooling towers and associated water requirements for either South Star I or II, and process water for steam generation will be obtained from TCI oil production operations, there are no large water requirements or operations that would adversely affect water resources.

The affected environment is described in terms of climate, geologic and hydrologic setting, and surface water. This section describes water supply and environmental consequences/impacts related to the West Kern Water District (WKWD), state water policy, and surface (flood and stormwater) and groundwater. Mitigation measures and applicable laws, ordinances, regulations, and standards (LORS) are also discussed.

8.14.1 Affected Environment

The South Star Project location is in the southwestern end of the San Joaquin Valley in south central California (see Figure 1-1). The project location is within the South Midway-Sunset Oilfield, at the eastern edge of the Temblor Range. South Star I project site is located approximately 2.5 miles south-southeast of Fellows, California, while South Star II project site is approximate 1.5 miles south of Fellows, California. The fenced plant area for each site will be approximately 6.3 acres. The topography of this area is characterized by broad, arid mesas with intermittently flowing drainages that lead toward Broad and Buena Vista Creeks and ultimately toward Buena Vista Lakebed, although most dissipate before reaching the lakebed. The surface water features in the vicinity of the South Star sites and along the proposed utility routes are shown in Figure 8.14-1.

8.14.1.1 Regional Water Resources

Climate and Precipitation. The climate is characterized as Mediterranean-subtropical, with mild winters and dry summers. Most precipitation falls between October and May, with little or no precipitation occurring during the summer months. Two of the nearest climactic data collection locations are in Maricopa, located approximately 10 miles southeast, and Bakersfield, located approximately 35 miles northeast of the South Star Project location.

Table 8.14-1 lists the average monthly rainfall recorded at the Maricopa station from 1948 through 1993. The maximum monthly and maximum 24-hour precipitation recorded in Bakersfield are also shown. Average annual rainfall is 5.9 inches; runoff is less than 0.2 inches per year, based on data collected from 1951 through 1980 (USGS, http://water.wr.usgs.gov/gwatlas/summary/runoff.html).

Regional Water Supply. Water supplies in the region are obtained from both surface and groundwater. The WKWD manages water supplies and use through groundwater management, State Water Project deliveries, and agreements with other Kern County water management agencies, in association with the Kern County Water Agency. The WKWD was formed in May 1959 and includes the incorporated cities of Taft and Maricopa, along with several smaller west side communities. The WKWD serves an area of approximately 250 square miles in western Kern County with an estimated population of 20,000 to 25,000. Water deliveries total approximately 13,000 acre feet per year to approximately 6,500 domestic and 400 industrial users (West Kern Water District, 1997).

Geologic Setting and Groundwater. The San Joaquin Valley consists of several depositional basins, separated by a basement high known as the Bakersfield Arch, which trends roughly parallel to the Kern River. The rock comprising the underlying geologic units are grouped into three types: crystalline rocks of pre-Tertiary age (>65 million years old); marine sedimentary rocks of Tertiary age (65 million to approximately 20 million years old); and continental sedimentary deposits of Tertiary and Quaternary age (20 million years old to the present) (Dale et. al, 1966 in La Paloma Generating Company, 1998). The crystalline rocks and marine deposits are non-water bearing in the South Star Project site, and do not contribute significantly to groundwater production.

Overlying the geologic units is a thick sequence of continental semi-consolidated to unconsolidated sediments. These sediments are several thousand feet thick in the central San Joaquin Valley, and thinner at the margins (La Paloma Generating Company, 1998). In the southern portion of the San Joaquin Valley, the continental rocks consist of the Plio-Pleistocene Tulare formation, a thick sequence of water-laden sands, silts, and clays. The water-producing portion of the groundwater basin is within the upper sections of the

continental deposits and overlying alluvium. The groundwater basin in this area is considered unconfined; however, the heterogeneity of the alluvial fan complex results in thin, discontinuous lenses of clay that may retard vertical percolation of groundwater, creating isolated perched water systems (West Kern Water District, 1997, in La Paloma Generating Company LLC, 1998).

Groundwater is encountered at greater than 300 feet below ground surface in the general vicinity of the South Star Project site and utility line corridors. In general, the groundwater resource in the area is not used for irrigation or municipal needs because the area is primarily used for oil production and the groundwater is of poor water quality. The area has been used for oil production for approximately 100 years, and production water/brine has been re-injected into the subsurface during much of that period. Therefore, the groundwater tends to have very high concentrations of selenium, boron, chlorides, and total dissolved solids (Kern County Water Agency, 1998).

Surface Water. There are no permanent surface water bodies in the vicinity of the South Star Project sites, along the transmission corridor that extends northwest to the Morgan Substation, or along the utility supply corridors that cross Midway Valley. The Kern River, located approximately 15 and 16 miles northeast of the South Star I Project site and South Star II Project site, respectively, on the eastern side of the Buena Vista Valley (separated from Midway Valley by the Buena Vista Hills), is the primary surface water feature in the region. The Kern River source is in the southern Sierra Nevada mountains, and the river flows generally west to the Buena Vista Aquatic Recreation Area and Buena Vista Lakebed.

Intermittent creek drainages, including Hale McLeod Canyon creek and Seventeen Canyon creek, flow in the vicinity of the South Star Project area. The 100-year floodplains for these creek drainages are shown in Figure 8.14-2. South Star I is not within the 100-year floodplain designation. Although a portion of South Star II is within the 100-year floodplain, the site will be graded such that no project component will be within the 100-year floodplain. Additional site grading will not extend into Hale McLeod Canyon creek.

The South Star I site would sit at an elevation between 1,500 and 1,600 feet above mean sea level, and South Star II at an elevation between 1,650 and 1,750 feet. All creek drainages flow generally to the east. The drainages in the vicinity of both plant sites flow toward Broad Creek, and the drainages along the utility line corridors flow toward either Broad Creek or Buena Vista Creek. Both of these creeks are also intermittent, and when flowing, the water generally dissipates prior to reaching the California Aqueduct along the northwestern end of the Buena Vista Lakebed. Most of the intermittent creek drainages do not support woody or riparian vegetation. Because of the arid climate and minimal runoff, these drainages are dry throughout most of the year; however, during storm events, localized flooding may occur, as indicated in the floodplain maps.

8.14.1.2 Project Water Supply

South Star I and II will each receive water for domestic use, firewater, and evaporative coolers from the WKWD water supply. The water will be supplied to each site through an interconnection with the TCI South Midway Utility Corridor at each plan fenceline. The primary water supply for the heat recovery steam generator (HRSG) operation will be preconditioned, softened, produced water obtained from the adjacent Texaco California, Inc. (TCI) oil field operations. Produced water will be supplied to each site through an interconnection with the TCI South Midway Utility Corridor at each plant fenceline. Produced water will be used for the following reasons:

- It is a reliable source of water of acceptable quality for EOR steam generation;
- Use of fresh water is minimized; and
- Preconditioned, softened, produced water is economically preferred to more expensive fresh water sources.

A minor additional source of water is the demineralized water supply for the compressor wash that will be trucked in periodically as needed for on-line and off-line washing. Nominal quantities of water will also be required to support construction activities. The primary use of water during construction will be for fugitive dust control during grading. Produced water will be used to support grading, fugitive dust control and other construction

activities to the extent feasible. Potable water during construction will be supplied by WKWD.

8.14.2 Environmental Consequences

The potential effects of the South Star Project on water resources have been evaluated based on impacts to:

- WKWD's water supply;
- State water policy;
- Surface water;
- Groundwater; and
- Cumulative water resources impacts.

Figures 2-6a and 2-6b illustrates the water mass balance for the annual average and peak daily use cases, respectively for South Star I and South Star II. Table 8.14-2 provides general water quality parameters and flowrates for the two principal water sources that will supply water for South Star I and II.

Estimates for annual water usage (average) are 13,140,000 gallons (40.3 acre-feet) WKWD water, and 639,129,600 gallons (1,962.1 acre-feet) from the TCI source. Greater than 95% of the total water requirements for plant operations will be obtained from nearby TCI operations. Produced water from oil production wells will be pretreated and piped to each South Star Project for HRSG operation, and the steam produced will be returned to TCI to be used for steam injection. In this manner, consumptive water use will be minimized.

West Kern Water District Water Supply Impacts. A contract will be established with the WKWD to supply the potable water, the firewater, and evaporative coolers makeup. Average annual water requirements from the WKWD are 13,140,000 gallons (40.3 acre-feet). This volume of water comprises approximately 0.2% of the 1997/1998 water year production for the WKWD.

Because the South Star Project's extremely low water use requirement, the South Star Project water demand will not have a significant impact on the WKWD's water supply operations. New increases in water demand from the WKWD include the La Paloma Generating Project (La Paloma), the Elk Hills Power Project (Elk Hills), and potentially the Western Midway Sunset Cogeneration Company Project (Western Midway Sunset) as well as the second phase of the Sunrise Power Project (Sunrise II). La Paloma will use approximately 5,500 acre- feet per year. To supply water to La Paloma, WKWD will have a new contract to buy 6,500 acre-feet per year of SWP water from the Buena Vista Water Storage District (BVWSD) (Hodges, 2001). La Paloma will receive water directly from the California Aqueduct. Elk Hills will use approximately 3,200 acre-feet per year. Western Midway Sunset proposes to use approximately 2,500 acre-feet per year. The demand for Elk Hills and Western Midway Sunset, plus the 1997-1998 demand of nearly 13,400 acre-feet totals approximately 19,100 acre-feet per year. The 4,000 acre-feet per year for Sunrise II creates a combined demand of 23,100 acre-feet per year, which WKWD will be able to meet with its annual average of 26,700 acre-feet available.

Comparison of the current production capability and banked water volumes with future anticipated demands indicates that additional water sources would not be required (West Kern Water District, 1997). In the Water Supply Plan, as prepared by the District in 1989, analysis of current and future water needs was conducted. Local oil companies were surveyed, and the results indicated that oil production for fields within the District's service area had reached or are approaching maximum capacity, and production will decrease steadily after that. There is also no appreciable growth in anticipated domestic water supply requirements. Comparison of the District's water production capacity and banked water volumes indicated that supplies will be adequate to meet projected needs, and the additional needs for this project are within those projected for the District overall.

State Water Policy Impacts. The total volume of fresh water that will be used for South Star I and II is a very small fraction of the beneficial use of inland waters for the state. The planned use of softened produced water for nearly all of the project's needs minimizes the consumptive use of available water supply in the WKWD. New water sources

are not required to be developed to support project operations, as discussed above. Conformance with state water policies and agreements are discussed below.

Monterey Agreement - The WKWD operates under this agreement, and the contract to be established for the South Star Project will provide for the obligations and responsibilities under this agreement. If water shortages occur during drought years that affect the WKWD's withdrawals from the State Water Project, the WKWD will draw upon banked reserves to meet water supply obligations.

CalFed Bay-Delta Program - The South Star Project will use water that has historically been allocated to the WKWD. Thus, the South Star Project will not increase permitted withdrawals from the Delta. If the South Star Project supply does not require full use of the contracted volume of water, the WKWD may choose to contract the water to other users.

Surface Water Impacts. Potential surface water impacts include the disruption of surface runoff patterns during construction activities at the South Star Project sites and along the transmission line corridor, and stormwater management and discharge during operation.

The South Star I plant site does not encroach upon nearby intermittent drainages or affect the associated 100-year floodplain (Figure 8.14-2). However, the South Star II project site is within Hale McLeod Canyon creek 100-year floodplain. To avoid hazards from a 100-year flood, the plant site will be graded so that project components are above the base flood elevation.

Figure 2-7, the Site Grading plan for each South Star Project site, illustrates that grading for facility construction and reestablishment of drainage patterns after construction will not disturb the intermittent drainage. Installation of structures along the transmission line corridor will be located to avoid impacts to drainage. Existing roadways will be used wherever possible during construction of these facilities, and where additional roadways must be established, they will be sited and graded to minimize the potential for erosion and runoff disturbance. Best engineering management practices and drainage control will be

implemented to minimize impacts related to all construction activities. In addition, erosion and sediment controls will be implemented, along with best management practices as recommended for compliance with the California NPDES Stormwater General Permit for Stormwater Discharge Associated with Construction Activity, and any other laws, ordinances, regulations, and standards, as applicable. These practices will apply to both construction and operation.

Construction along the transmission line corridor may result in temporary potential for increased erosion at some pole locations. The potential for increased erosion will be addressed through controls similar to those implemented at the plant site. The poles will not be constructed in any intermittent creek drainages or their floodplains. Any disruption in surface water runoff or erosion is considered to be temporary and insignificant relative to the natural patterns and erosion in these drainages. No significant impacts to water resources are anticipated due to construction and operation of the transmission line.

Discharges from plant operations will not be released to the creek drainage or ground surface. Steam from the HRSGs will be returned to TCI oil production operations for steam injection. Both South Star I and South Star II will send wastewater via the TCI South Midway Utility Corridor to Valley Waste system for disposal. These discharges will include stormwater collected from within bermed or graded areas around equipment or operations that may have come in contact with chemicals. The discharge lines to the TCI wastewater line will be constructed in compliance with applicable codes and regulations, under oversight of the Kern County Engineering Division.

The facility design will conform to the Kern County Hydrology Manual as stated in Appendix A (Foundations and Civil Engineering Design Criteria, A.3.3.4). Drainage systems will be designed to handle flow resulting from the maximum operational capacity and stormwater resulting from a maximum 25 year, 24-hour rainfall event (4.7 inches). The facilities will also be designed to prevent flooding of permanent facilities and roads.

Stormwater runoff that is collected from outside bermed or graded stormwater collection areas will be allowed to flow via natural drainage patterns. This stormwater drainage system design will also follow best management practices. Because the construction

of each facility covers more than 5 acres, it is subject to the California Stormwater General Permit for Stormwater Discharge Associated with Construction Activity. A stormwater monitoring program for construction will be implemented.

Because the only runoff to be allowed to discharge following natural drainage patterns will be that originating outside bermed or contained areas (i.e. no potential for contact with chemicals), the California General Stormwater permit and associated monitoring and reporting requirements will not apply to the operational phases of either South Star I or II.

In addition, the project is considered a Category 10 Discharge, as described in the Fact Sheet for the California General permit (to be listed). As such, it is not subject to the terms of the General Permit as long as minimum conditions cited on Page V of the fact sheet are met. The runoff from both South Star I and South Star II sites does not contribute significantly to the watershed runoff, and it is not a significant groundwater recharge area. This is supported by considering that the only surface water resource on the project sites is intermittent creek drainage, total annual rainfall is less than 6 inches, and average runoff is less than 0.2 inches. Runoff and infiltration from the project sites that will be permanently impacted make up a very minor contribution to surface water resources.

No significant impacts to surface water quality or quantity are anticipated during construction or operation of South Star I and II.

Groundwater Impacts. Activities at South Star I and II have no potential to impact groundwater beneath either project site. Groundwater depths are greater than 300 feet below ground surface (bgs) in the region; therefore, surface activities associated with plant construction and operation have little or no potential to impact groundwater resources.

A domestic sewage system consisting of a septic tank and leach field will be constructed to handle the domestic water discharge and sewage requirements for the people who will operate each plant. Sanitary wastes will be conveyed to a septic tank and tile drain leachfield to be constructed to handle a maximum discharge of approximately 300 gallons per day (based on 0.2 gallons per minute [gpm] flowrate to system shown in Figure 8.14-3).

A permit from Kern County will be required for construction of the septic systems. No adverse impacts are anticipated from proper construction and operation of the septic systems.

Uncontaminated stormwater will be allowed to follow natural drainage patterns, and infiltration rates in the area are not anticipated to change significantly from those in undisturbed areas.

8.14.3 Cumulative Water Resources Impacts

Construction and operation of South Star I and II is not expected to have significant cumulative water resources impacts. No cumulative impacts are expected on water sources because 95% of the water will be softened produced water from TCI's adjacent oil production operations. There would be no cumulative impacts on this water source. TCI's current and future use of this produced water will be for steam generation. South Star will not have a significant cumulative impact on the WKWD because WKWD has sufficient capacity to serve South Star's minimal fresh water demand in combination with its forecasted total demand.

No cumulative impacts are expected with regard to surface or groundwater resources. Discharge of uncontaminated stormwater runoff to the local intermittent drainage will not contribute to any cumulative surface water impacts because of the small and localized area affected and the lack of new potential upstream discharges. The runoff will not be diminished or relocated significantly, considering that it will only be redirected to flow from the relatively small disturbed area where the project sites will be located.

8.14.4 Mitigation Measures and Proposed Conditions

8.14.4.1 Mitigation Measures

Mitigation measures that will be implemented to ensure impacts to water resources are reduced to insignificant levels are presented in this section. These include actions to be taken during construction and operation of South Star I and South Star II, the transmission line, and switchyards. These measures will also reduce potential impacts to water quality and soils.

1. Designs and construction practices will minimize soil erosion during construction and operation of all associated facilities. The site drainage plan will conform to the Kern County Flood Control District Design and Procedure Manual.
2. Equipment refueling and maintenance during construction will be performed within designated areas consistent with BMPs. Spill contingency plans will be prepared and followed where appropriate.
3. During construction of transmission lines, existing roads will be used as much as possible.
4. During construction, a buffer area will be established using stakes or fences along the nearby intermittent drainages. No heavy equipment operation will be permitted within those areas to ensure that the drainage will not be disturbed.
5. During operation, the minimum conditions required to maintain exemption from the California General Stormwater Permit will be maintained and documentation sufficient to certify those conditions will be retained onsite.

8.14.4.2 Proposed Conditions of Certification

In order to ensure compliance with applicable LORS and/or to reduce potentially significant impacts to less than significant levels, proposed conditions of certification are contained in Appendix K.

8.14.5 Applicable Laws, Ordinances, Regulations, and Standards

8.14.5.1 Federal LORS

The following are applicable federal laws, ordinances, regulations, and standards (LORS). These LORS are summarized in Table 8.14-3.

Clean Water Act. The Clean Water Act (CWA), as amended (Title 40 CFR Parts 112, 122, and 125) has the objective to restore and maintain the chemical, physical, and biological properties of the nation's surface waters. The CWA authorizes the U.S. Environmental Protection Agency to regulate discharges of wastewater and stormwater into any surface water body by issuing National Pollutant Discharge Elimination System (NPDES) permits and pretreatment standards. These regulations apply to stormwater and any other point source discharges released during construction and operation of any industry or activity that disturbs 5 acres or more.

In California, the administering agency for issuing and enforcing these permits has been delegated to the State Water Resources Control Board (described in the following section). The Central Valley Regional Water Quality Control Board (CVRWQCB) will issue and have oversight of the General Construction Activity Stormwater Permit for construction of the proposed project. The Stormwater General Permit is not applicable to the South Star Project operations because stormwater that may come in contact with chemicals will be collected and discharged in a closed system to a permitted wastewater facility. The minimum conditions required to maintain exemption will be met and documentation to support this will be retained onsite.

Resource Conservation and Recovery Act. The Resource Conservation and Recovery Act (RCRA) of 1976, 40 CFR Part 260 *et. seq*. has as its objective to prevent surface and groundwater contamination by issuing permits and establishing guidelines to track and control handling and disposal of hazardous waste and hazardous materials.

In California, the administering agency for issuing and enforcing these permits is the California Department of Toxic Substances Control (DTSC). Region I of the DTSC will issue and have oversight of any RCRA permits required for the proposed project.

8.14.5.2 State LORS

The following are applicable State LORS:

California Constitution, Article 10 Section 2. Article 10 of the California Constitution prohibits waste or unreasonable use of water. The article also regulates the method of use and diversion of water. The administering agency is the State Water Resources Control Board.

California Environmental Quality Act (CEQA), Public Resources Code § 21000 et seq.; CEQA Guidelines, 14 CCR § 15000 et seq.: Appendix G. The CEQA establishes guidelines that define water resources impacts. Appendix G contains definitions of projects that may be considered to cause significant impacts to water resources. The administering agency for the CEQA is the CEC.

California Porter-Cologne Water Quality Control Act 1998; California Water Code § 13000 – 14957; Division 7, Water Quality. The Porter-Cologne Water Quality Control Act authorizes implementation of a statewide program for control of quality of all waters of the state. The act establishes the state and regional water quality control boards as the state agencies with the primary responsibilities for coordinating and controlling water quality. Siting, operation, and closure of waste disposal sites are regulated. The CVRWQCB requires that wastes and disposal sites are classified, and that discharges comply with groundwater protection and monitoring requirements as set forth in the RCRA.

The CEC, SWRQCB, and CVRWQCB will have authority and oversight of water quality issues for the proposed project.

California Water Code Section 13260-13269; 23 CCR Chapter 9. The water code requires that a waste discharge report be filed regarding any waste discharge requirements where the discharge can affect the quality of any waters. The discharge requirements will support enforcement of relevant water quality protection objectives of the Water Quality Control Plan and applicable federal technology based effluent standards. The discharge requirements may also incorporate requirements based on the CWA § 402(p) to address construction activities. The administering agency is the CVRWQCB.

California Water Code Sections 13271-13272; 23 CCR Sections 2250-2260. The California Water Code requires that releases of specified quantities of hazardous substances, sewage, or petroleum products be reported if the release is likely to result in discharge to waters of the state. Where the release or threat of discharge affects surface waters, hazardous substances and reportable quantities are defined in 40 CFR § 116.5 under § 311(b)(2) of the CWA. Where the release or threat of discharge affects groundwater, hazardous substances are defined as those listed as hazardous under the California Hazardous Waste Control Act, Health and Safety Code §§ 25100-2520.24, and the reportable quantities are those specified in 40 CFR Part 302. Releases of hazardous quantities are not anticipated as a result of operation of the proposed project; however, if releases occur, reporting requirements specified in this code would be followed.

The administering agency is the CVRWQCB and California Office of Emergency Services.

California Public Resources Code § 25523(a): 20CCR §§ 1752,1752.5,2300-2309, and Chapter 2 Subchapter 5, Article 1, Appendix B, Part (1). These sections of the Public Resources Code provide for inclusion of requirements in the CEC's decision on an AFC to assure protection of environmental quality and requires information to be submitted to the CEC regarding water resources and water quality protection.

The administering agency is the CEC.

8.14.5.3 Local Authorities and Administering Agencies

Kern County Water Agency. The Kern County Water Agency has primary authority to acquire and contract for water supplies for Kern County, control storm and flood waters, protect groundwater quality, conduct any needed water resources investigations. The Agency coordinates management of water supplies, with particular emphasis on State Water Project Supplies. The proposed project will receive water from the West Kern Water District that contracts with the Kern County Water Agency to distribute water in Western Kern County.

The administering agency is the Kern County Water Agency.

West Kern Water District. As a member of the Kern County Water Agency, the West Kern Water District will coordinate the city water supply for the proposed project. The water connection for the proposed project will be dedicated to the District for operation and maintenance. Therefore, all installations shall be constructed in compliance with state and county building codes and any manufacturers' instructions for equipment needed. The District reserves the right to review and approve a complete set of detailed plans and specifications for any planned construction to ensure compliance with all applicable regulations. The South Star Project will conform with these requirements.

The administering agency is the West Kern Water District.

Kern County General Plan: Physical Constraint Policy. Kern County will not permit new development on sites that are environmentally unsound and unable to support development. This includes regulations regarding shallow groundwater occurrence, construction, and installation of sewage disposal facilities, and construction within flood hazard or flood channel areas. The proposed South Star Project is consistent with the General Plan and will not be impacted by the physical constraint policy.

The administering agencies are the Kern County Department of Planning and Development Services, and the Kern County Engineering and Design Services, as applicable.

8.14.6 LORS Compliance Strategy

Construction and operation of the proposed project, including the South Star I and South Star II Cogeneration plants, switchyards, transmission lines, and any other associated facilities will be conducted in compliance with all LORS applicable to hydrology and water quality (discussed in Section 8.14.4). Application for all required notifications and permits will be completed prior to the start of construction. Permit applications are anticipated to be submitted during the third quarter of 2001 for anticipated construction beginning in November 2001.

8.14.7 Involved Agencies and Agency Contacts

Agency	Contact/Title	Responsibilities	Telephone
Kern County Engineering and Design Services 2700 "M" Street, Suite 570 Bakersfield, CA 93301-2370	Chuck Lackey/ Engineering Director	Review of grading and drainage plans, septic/sewer design review	(661) 862-5100
West Kern Water District 800 Kern Street PO Box MM Taft, CA 93268	Jerry W. Pearson/ General Manager	West Kern Water District pipeline interconnection, water contracting issues	(661) 763-3151
Central Valley Regional Water Quality Control Board 3614 East Ashlan Ave. Fresno, CA 93726	Reza Afhami	Notification of design and specifications for septic tank and tile system.	(559) 445-6194

Agency	Contact/Title	Responsibilities	Telephone
Central Valley Regional Water Quality Control Board 3614 East Ashlan Ave. Fresno, CA 93726	Darrell Evensen	General Construction Activity Stormwater and General Industrial Activities Stormwater Permit	(559) 445-5910
California Department of Fish and Game Inland Fisheries Fresno, CA 93726	Clarence Mayott	Streambed Alteration Permit	(559) 243-4014

8.14.8 References

California Energy Commission. 2000. Final Staff Assessment, Western Midway Sunset Power Project, Application for Certification.

Dale, R.H., French, and G.V. Gordon. 1966. Groundwater Geology and Hydrology of the

Haselbacher, T. 19998. Kern County Water Agency. Personal Communication

Kern River Alluvial Fan Area. USGS Open–file Report No. 66-21.

La Paloma Generating Company. 1998. Application for Certification.

McCurdy, G. Western Regional Climactic Data Center. 1998. http://www/wrcc/dri/edu.

USGS, 1998. http://water.wr.usgs.gov/gwatlas/summary/runoff.html.

West Kern Water District, 1997. Water Management Plan.

Hodges, Bruce. 2001. West Kern Water District. Personal Communication. 2/23/01.

Table 8-14.1. Average, Maximum Monthly, and 24-Hour Rainfall (inches)[1]

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Avg.[2]	0.96	1.09	1.05	0.60	0.22	0.03	0.0	0.05	0.26	0.24	0.71	0.69
Max Monthly	2.87	4.68	4.61	2.65	2.39	1.11	0.30	1.18	1.06	1.82	3.04	2.03
(year)[3]	1943	1978	1938	1967	1971	1972	1965	1983	1976	1974	1960	1995
Max 24 Hr.	1.38	3.02	1.68	1.00	1.40	1.10	0.30	1.08	0.62	1.51	1.54	1.15
(year)[3]	1992	1978	1938	1943	1971	1972	1965	1983	1978	1940	1960	1974

[1] Source: Western Regional Climactic Data Center, Greg McCurdy, http://www/wrcc.dri.edu
[2] Maricopa, California
[3] Bakersfield, California

Table 8-14.2. Estimated Average Daily Water Requirements (gpm) (Per Site)

	West Kern Water District		TCI	
	Average	Peak	Average	Peak
Boiler Feedwater	0	0	1,216	1,216
Combustion Turbine Evaporative Cooler Makeup	20	50		0
Plant Service/Domestic	5	5	0	0
Total	**25**	**55**	**1,216**	**1,216**

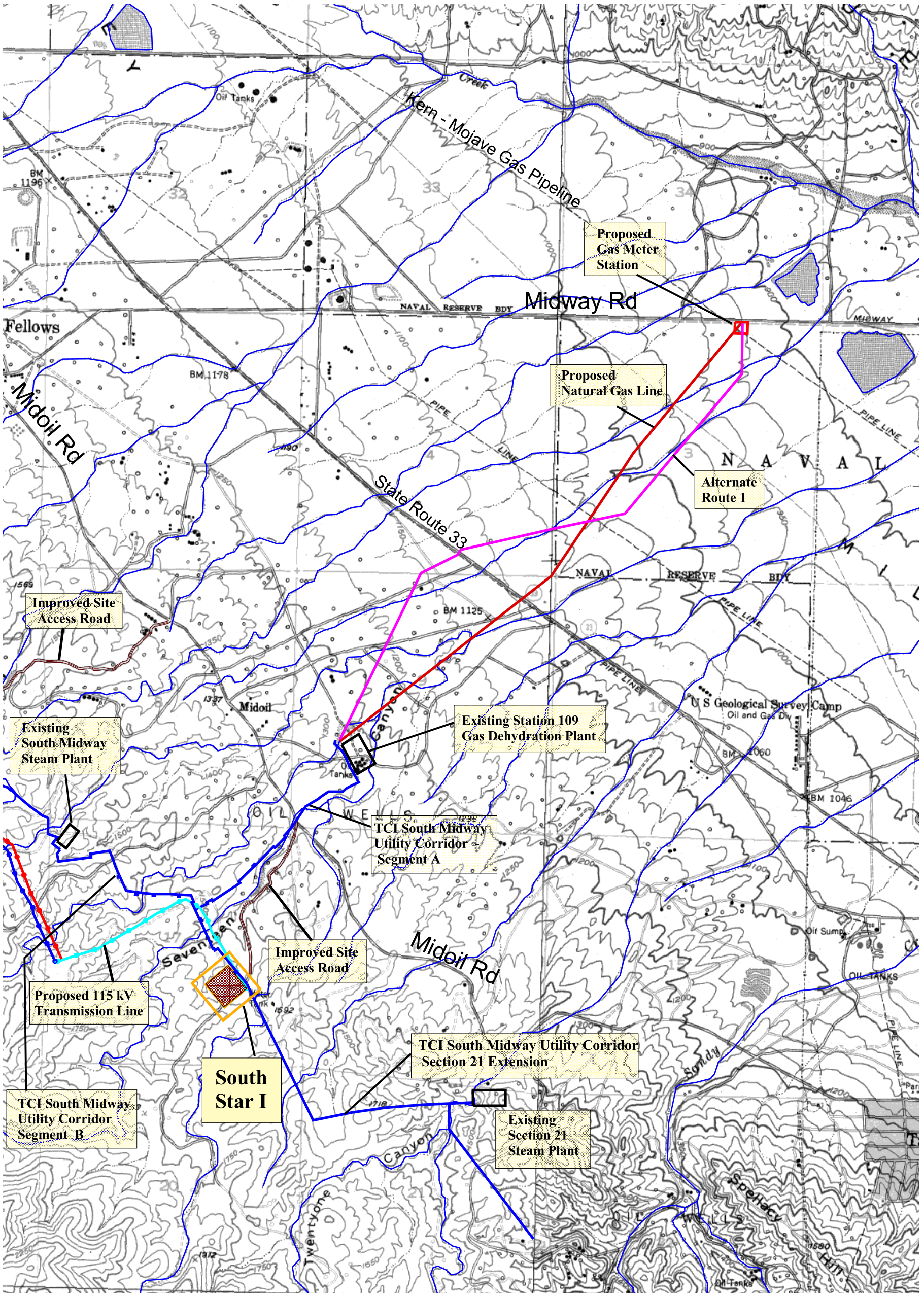
gpm = gallons per minute

Table 8.14-3. South Star Project Summary of LORS and Compliance

Jurisdiction	Authority	Administering Agency	Requirements & Compliance	AFC Conformance Section
Federal	Clean Water Act, 40 CFR Parts 111, 122, and 125	RWQCB Central Valley Region (authority deferred from EPA to RWQCB)	Stormwater management practices during construction must follow Best Management Practices. Completed applications and fees must be submitted prior to construction.	8.14.2, 8.14.4, 8.14.5.1
	Resource Conservation and Recovery Act	California Department of Toxic Substances Control, Region 1	Hazardous material and hazardous waste must be handled, tracked, and reported in conformance with permits issued for the facility. Potential water resources impacts will be monitored through any permits issued.	8.13.2, 8.13.12
State	California Constitution, Article 10, Section 2	RWQCB Central Valley Region	Minimization of consumptive water use through recycling of oil production water, water uses combined where feasible in facility design and process operations.	8.14.2
	California Porter-Cologne Water Quality Control Act	CEC, RWQCB Central Valley Region	Siting, operation and closure of waste disposal points requires submission of waste and site classification for any waste discharge permit required.	8.13.12
	California Environmental Quality Act, Public Resources Code 2100 et. seq.	CEC	Water resources impacts identified and mitigation measures detailed in this document.	8.14.2, 8.14.4

Table 8.14-3. Continued

Jurisdiction	Authority	Administering Agency	Requirements & Compliance	AFC Conformance Section
State	California Water Code, Section 13260-13269; 23 CCR Chapter 9; Sections 13271-13272; 23 CCR Sections 2250-2260	RWQCB Central Valley Region and California Office of Emergency Services	Construction activity stormwater management will be addressed under the construction activities general permit. All other discharges to be handled by Valley Waste Inc. Reporting of any accidental leaks or spills related to discharge piping and connections will be conducted in compliance with the Water Code.	8.14.2
	California Department of Fish and Game Code of Regulations, Section 1600 et seq CCR Title 14, Subdivision 3, Section 699	California Department of Fish and Game Inland Fisheries Division	Filing of notification for activities that may disturb streambeds/habitat.	8.2.1
Local	Kern County General Plan: Physical Constraint Policy	Kern County Engineering and Design Services	The facility will be constructed to meet all building codes and requirements. Permits will be obtained as required for construction of septic system for domestic discharges, connections to the West Kern Water District and Valley Waste pipelines. These will be constructed in conformance with county specifications.	8.14.2



URS	South Star Cogeneration Project Project No. 51-00167034.00	Drainages in the Area Surrounding the South Star Cogeneration and Power Project Site (Sheet 1 of 2)	Figure 8.14-1

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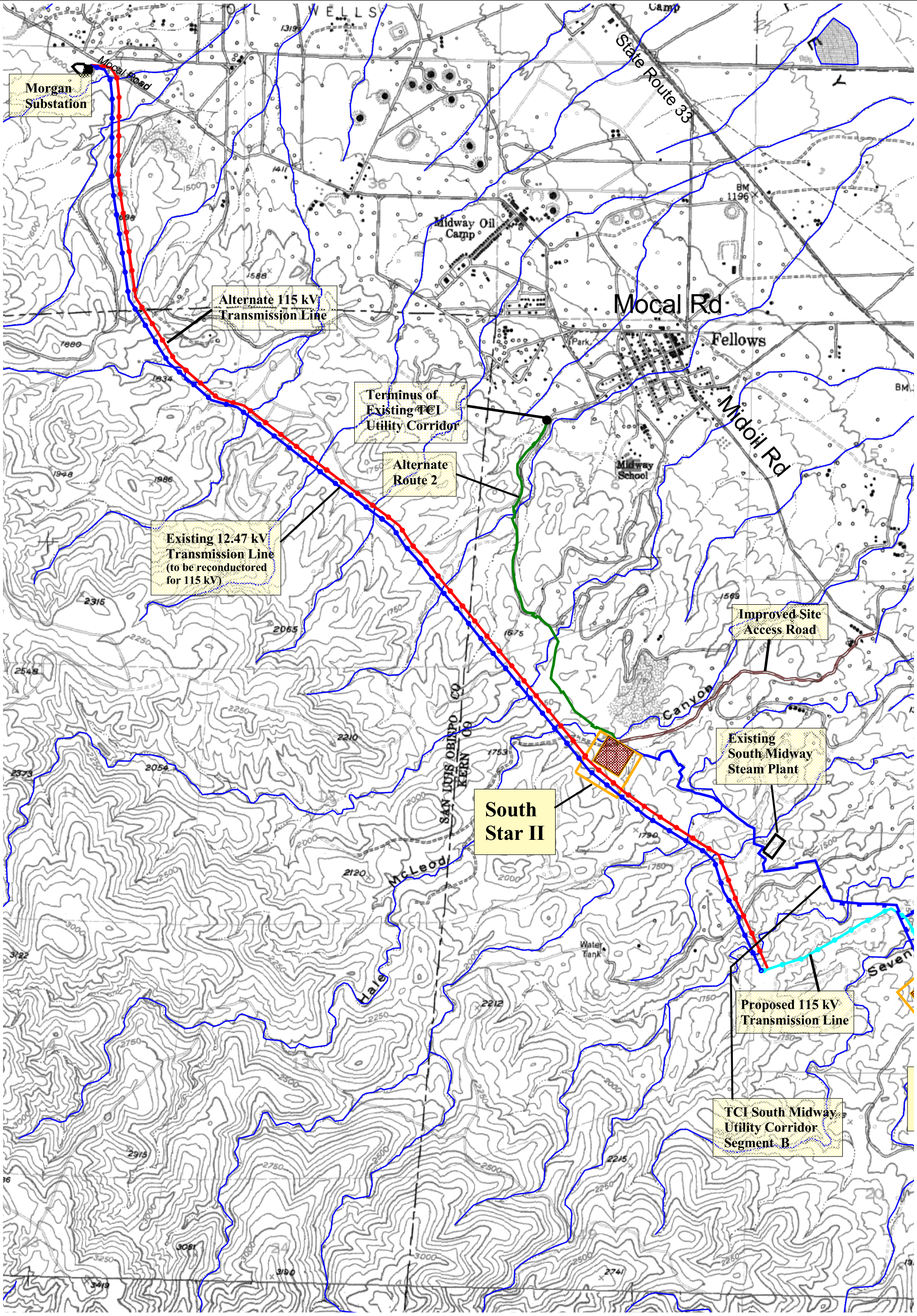

Alternate Route 2 (Natural Gas)

Alternate South Star II 115 kV Transmission Line

Existing 12.47 kV Transmission Line (to be reconductored for 115 kV)

Proposed 115 kV Transmission Line

TCI South Midway Utility Corridor

Parcel Boundaries

Existing Plant Boundaries

0.5 0 0.5 Miles

1:24000

N

URS	South Star Cogeneration Project Project No. 51-00167034.00	Drainages in the Area Surrounding the South Star Cogeneration and Power Project Site (Sheet 2 of 2)	Figure 8.14-1

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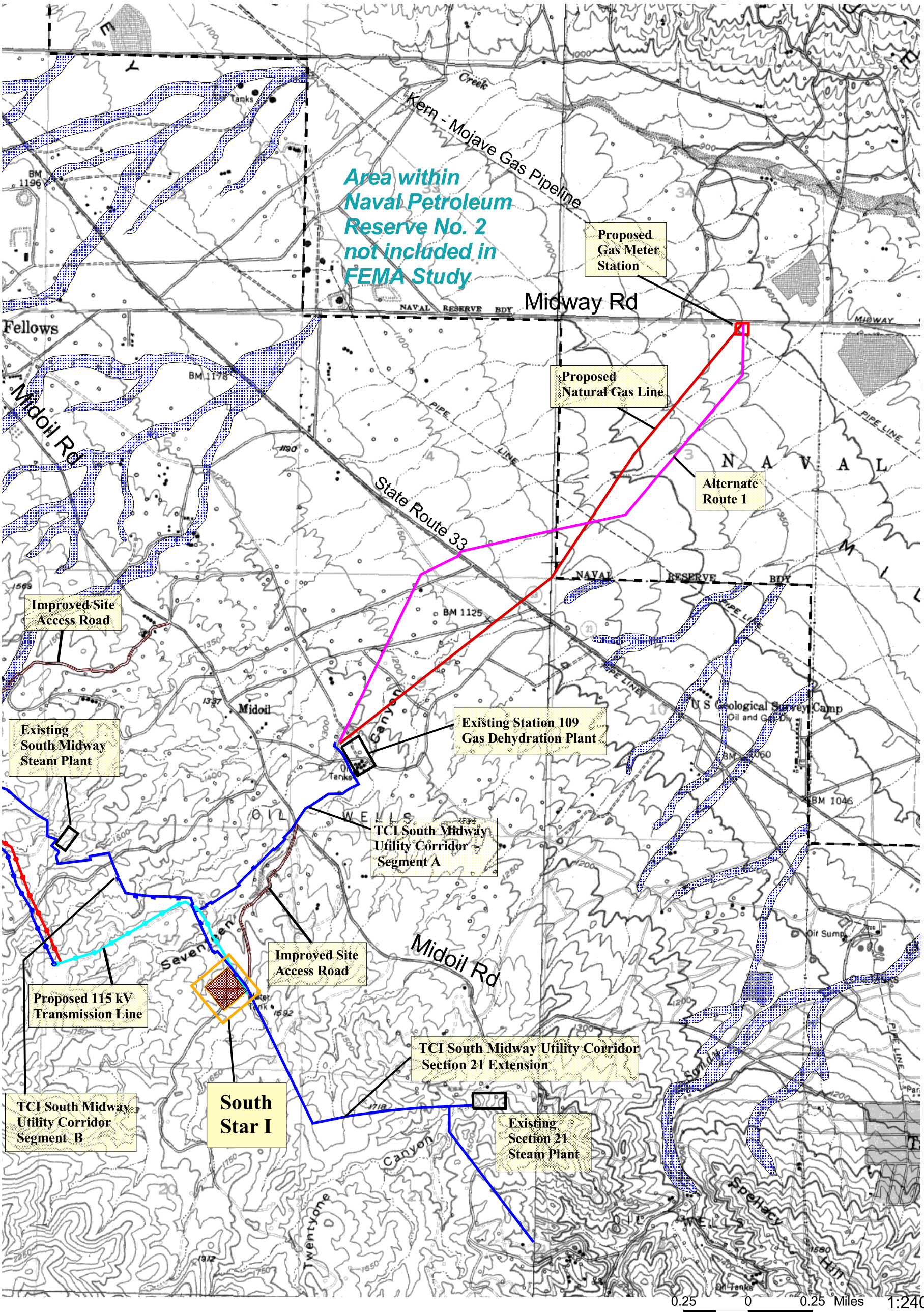

- Alternate Route 2 (Natural Gas and Water Line)
- Alternate South Star II 115 kV Transmission Line
- Existing 12.47 kV Transmission Line (to be reconductored for 115 kV)
- Proposed 115 kV Transmission Line
- TC1 South Midway Utility Corridor (Segments A, B, C Natural Gas, Steam, & Water Lines)
- Site Boundaries
- Miscellaneous Facility

FEMA's 100-Year Flood Hazard Area

URS	South Star Cogeneration Project Project No. 51-00167034.00	Floodplain map of Drainage Course Crossings (Sheet 1 of 2)	Figure 8.14-2

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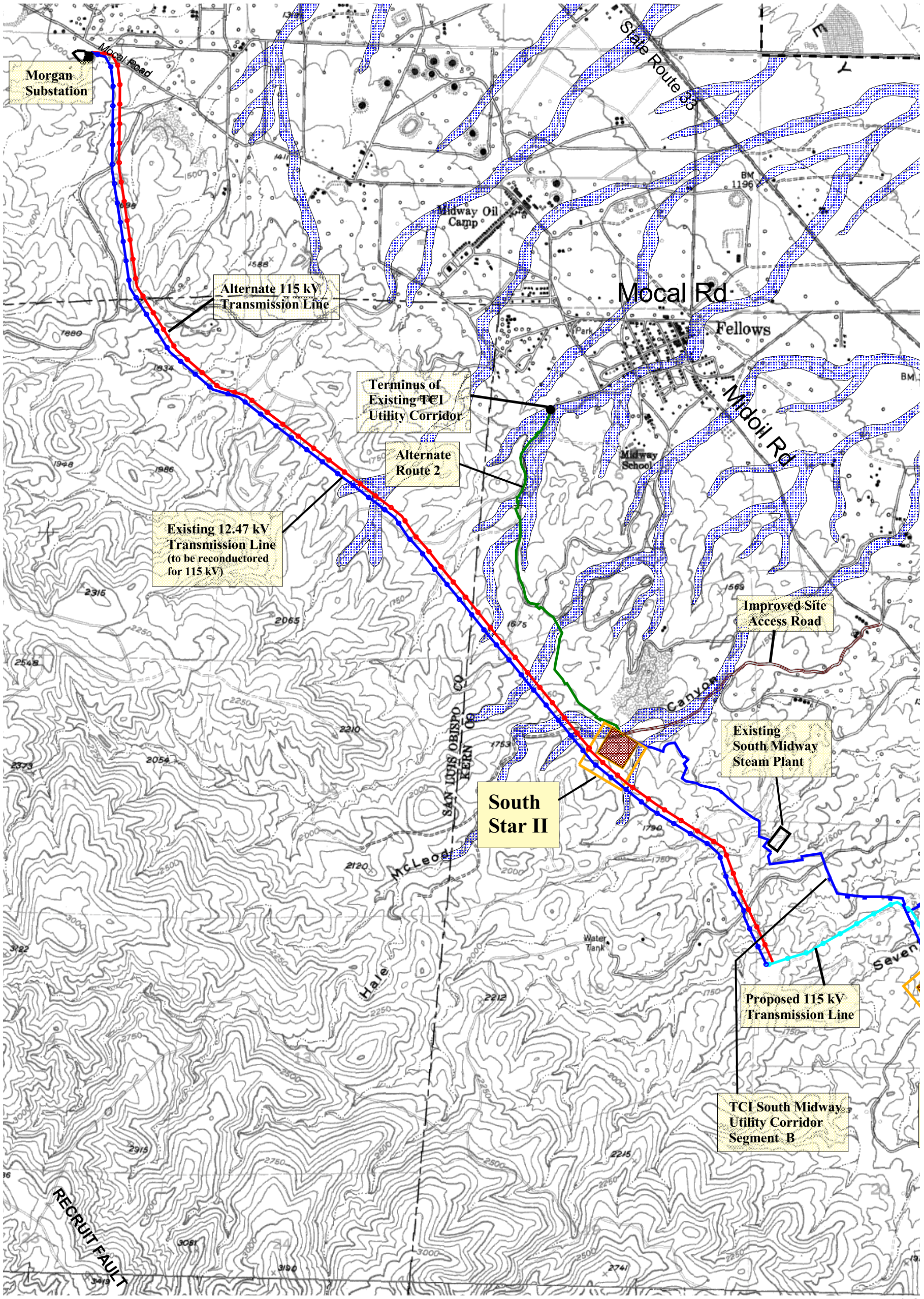

Alternate Route 1 (Natural Gas)

Existing 12.47 kV Transmission Line (to be reconductored for 115 kV)

Proposed 115 kV Transmission Line

Propsed Natural Gas Line (Approx. 10, 500 feet)

TC1 South Midway Utility Corridor
(Segments A, B, C Natural Gas, Steam, & Water Lines)

Site Boundaries

Miscellaneous Facility

FEMA's 100-Year Flood Hazard Area

URS	South Star Cogeneration Project Project No. 51-00167034.00	Floodplain map of Drainage Course Crossings (Sheet 2 of 2)	Figure 8.14-2

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